

**REMARKS**

This is a Continued Examination application. Claims 1-8, 10-23 and 27-83 remain in the case.

Claims 1-8, 10-23 and 27-83 stand rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter. Claims 1, 31 and 58 have been amended to more positively recite statutory subject matter. In view of the amendments, the Examiner is respectfully requested to withdraw the rejection of the claims under 35 USC § 101.

In the Office Action mailed September 23, 2003, the Examiner rejected claims 1-8, 10-23 and 27-83 under 35 U.S.C. § 103(a) over U.S. Pat. No. 5,111,391, Fields *et al.* ("*Fields*"). The rejection, insofar as it may be applied to the claims as amended, is respectfully traversed for the reasons indicated below. Reconsideration of the application and withdrawal of the rejection is respectfully requested.

For the reasons including, inter alia, those discussed below, each of independent claims 1, 31 and 58 is patentable over the applied reference. Further, claims dependent from these independent claims are deemed patentable.

**U.S. Patent 5,111,391, Fields et al.**

U.S. Patent 5,111,391, Fields et al. ("*Fields*") is directed to "an improved system and method for the creation of staff schedules at remote locations that take into account location specific values and historical data, while simultaneously conforming to corporate policy regarding scheduling standards and labor regulations." (Col. 1, lines 8-14.) The Office Action has deemed the following disclosures to be particularly relevant, which are repeated here for convenience:

"The optimum schedules take into account: the tasks that need to be scheduled and when they should be scheduled; the skill levels of employees that are available to perform the tasks; the resources available to facilitate tasks; the relationships between tasks; calculations to combine unique location values with unique location historical data and corporate policy to determine the

length, start time and positive and negative slide for a task; employee availability by day of the week, and hours of the day, skill level, and priority of seniority levels; and applicable 'state' labor regulations." (Col. 2, lines 17-28.) "The invention initially assigns employee names to the day with the least total employee availability, followed by the next most restrictive day and so on. Within a given day, employees' names are assigned by skill level. Within a given skill level, the available employees on that day that can perform the skill level, will be sorted by their priority and the percentage of their minimum or maximum hours which have been already scheduled. Once all employees of equal skill and priority have reached their minimum requested hours for the week, the employees are sorted by preferences as the percentage of requested maximum hours for a week." (Col. 6, lines 51-65.) The invention also provides a file that includes employee information such as the employee's name, address, and pay rate. (Col. 6, lines 43-45.)

#### **Independent Claim 1 in Contrast to Fields**

Claim 1 stands rejected under 35 USC § 103(a) in view of Fields. This rejection, insofar as it may be applied to the present claim, is respectfully traversed, for reasons including the following.

Claim 1(a) as amended recites "(a) sorting, in a predetermined order, available resources by a number of tasks performable, and rate per task, and determining at least one queue responsive to said sorting, wherein the rate per task characterizes the processing of at least one task." It appears that the Office Action considered a prior version of the claim, and many of the arguments presented in the Office Action are not clearly directed to the present claim. The following addresses the arguments as best understood.

Without conceding that Fields discloses any of the features of the present invention, Fields clearly does not teach sorting resources by a number of tasks performable, and rate per task. In the cited portions of Fields, Fields teaches that optimum schedules should take into account the tasks needed to be scheduled and when they should be scheduled, employee skill level, resources for the tasks, relationship between tasks, certain unique location calculations, employee availability, and labor regulations. (Col. 2, lines 12-35, Col. 6, lines 51-65). However, Fields neither teaches nor suggests that resources may be sorted as claimed.

The Examiner appears to argue that “Implicit in assessing ‘the percentage of an employee’s time that it takes to do a particular task,’ as recited in Col. 1, lines 34-35, is an understanding of the unit(s) of work, i.e., tasks, that the employee completes in a certain time period.” In stating that the reference has “implicit” support, the Examiner admits that the support is not express. In relying on an allegedly inherent characteristic, the Examiner must provide a basis in fact and/or technical reasoning that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art. *In re Levy*, 17 USPQ2d 1461, 1464 (Bd Pat. App. 1990); MPEP § 2112. A percentage of anything completely fails to suggest a “number of tasks” or “rate per task”. Contrary to the Examiner’s contention, nothing about, e.g., 100 % suggests whether 6 or 600 units of work are completed. For example, as explained in the specification, page 42, “it may be possible to process 2,000 pieces a minute for one class of tasks, but it may take an hour to process a single different task.”

Moreover, “all words in a claim must be considered in judging patentability.” *In re Wilson*, 424 F.2d 1382, 1385 (CCPA 1970). The Examiner clearly has failed to consider many of the words in claim 1, for example “the at least one task including reviewing a pharmaceutical order, filling the pharmaceutical order, and verifying the pharmaceutical order.” Due to this failure, the Examiner has not made a prima facie case of obviousness under 35 USC § 103(a). The Examiner therefore is respectfully requested to withdraw the rejection.

As previously explained, staffing a pharmacy is more specialized than simply staffing Fields’ “multi-unit retail locations” (col. 1 line 15). One example of several problems identified in the background of the invention concerns “scheduling to substantially optimally staff pharmacies on a day-to-day basis, and more particularly, to solving scheduling problems where resources perform a varying set of tasks and their individual rates (units/man hours) for each task vary.” Accordingly, the applicants “have determined that the use of such techniques is new to the managed care, health care and/or pharmacy industry” (specification pages 1, 7-8). The specification discusses, inter-alia, advantages, as the subject of the inventors’ Declaration, and is evidence to be considered in reaching a conclusion as to obviousness. Hence, any contention that Fields would be useful in a pharmacy is nothing more than an impermissible application of hindsight.

In addition, Fields itself teaches away from complex scheduling problems. Fields teaches that creating an optimized staff schedule presents a problem of “linear complexity” (Col. 1, lines 55-57). The prior art must be considered in its entirety, including portions that would lead away from the claimed invention. This is a strong indication that subject matter which is not expressly mentioned in Fields may be included, if at all, only with great difficulty. This must be taken into account when determining patentability, particularly when the Examiner argues that subject matter is “inherent” or “well known” and would have been combined with Fields.

Applicants have reviewed the other references of record, and do not believe that the other references remedy the deficiencies of the cited reference. Specifically, the art cited by the Examiner does not assign available resources to the at least one task subject to at least one task constraint.

For at least these reasons, the combination of features recited in independent claim 1, when interpreted as a whole, is submitted to patentably distinguish over the cited references. The Examiner is respectfully requested to reconsider and withdraw the rejection.

#### **Dependent Claims 2-8, 10-23, and 27-83 in Contrast to Fields**

With respect to the finally rejected dependent claims 2-8, 10-23, and 27-30, Applicants respectfully submit that these claims are not only allowable by virtue of their dependency from independent claim 1, but also because of additional features they recite. The Examiner presents specific arguments with respect to claims 2-8, 10-23 and 27-29. Arguments previously presented by applicants are incorporated herein by reference. The omission of a claim from the following discussion is not to be construed as an admission that the Office Action is correct.

Claim 2, for example, recites the step of “redetermining the at least one queue after assignment of the available resources,” and “designating the assigned resource unavailable until a predetermined time when the assigned available resource expires.” Fields neither teaches nor suggests redetermining the at least one queue as claimed, or designating the assigned resource as unavailable until a time when the resource expires, as further claimed. To the contrary, the portion of Fields cited in the Office Action suggests “first placing the task at the highest skill level and then trying to move the task to a lower skill level when creating shifts.” (Col. 5 lines

66-68.) Accordingly, the combination of features recited in claim 2 is submitted to be patentable over the prior art of record.

Claim 5 recites that “the at least one task constraint includes at least one team assignment constraint, and the available resources are assigned to the at least one task until the at least one team assignment constraint is satisfied.” Fields neither teaches nor suggests anything about using a team assignment as a constraint. The Office Action argues that “task constraints include a team assignment constraint such as the skill level of the employee or the relationship between the different tasks.” To the contrary, employee skill level and task relationship are not the equivalent of a team assignment constraint. Fields does not concern itself with teams or team constraints, and accordingly does not even use the word “team”. Hence, it is respectfully submitted that Claim 5 is neither taught nor suggested by Fields. Accordingly, the combination of features recited in claim 2 is submitted to be patentable over the prior art of record.

Claim 10 recites normalizing. Fields neither teaches nor suggests normalizing. Further, claim 10 recites that the resource allocation model “includes entities with variable attributes having variable quantities that transform through at least one network of nodes.” Nothing in the cited reference teaches or suggests that the resource allocation model includes a network of nodes. The Office Action specifically cites Fields Col. 6, lines 51-65; however, this reference simply does not teach or suggest a resource allocation model as claimed. The Examiner previously argued that a network of nodes is “inherent.” Fields has no discussion relating to a network of nodes, whether explicit or implicit. Accordingly, the Examiner is again respectfully requested to provide support for this allegedly inherent feature. If the Examiner maintains this argument, she is again respectfully requested to detail the inherency reasoning or supply an affidavit of personal knowledge or an appropriate reference 37 CFR § 1.104(d)(2). Accordingly, the combination of features recited in claim 2 is submitted to be patentable over the prior art of record.

Claims 11-16 depend directly or indirectly from claim 10, and are deemed to be allowable for reasons including those discussed above.

Further, in connection with claim 12, the Examiner states that it is well known to “quantitatively define attributes through nominal, graphical and symbolic attributes.” It is

unclear what the Examiner considers to “quantitatively define” attributes. Hence, it would appear that the allegedly “well known” facts are not capable of “instant and unquestionable demonstration.” Moreover, even if one is motivated to “quantitatively” define attributes, as argued by the Examiner, that does not teach or suggest that one would be motivated to “qualitatively” define the attributes, as further claimed. The finding of official notice is respectfully traversed.<sup>1</sup> Accordingly, the combination of features recited in claim 2 is submitted to be patentable over the prior art of record.

In connection with claim 15, the Examiner argues that Fields discloses, among other things, “evaluating real-time operation data”. Nothing in Fields teaches or suggests any evaluating of real-time data. The Examiner argues that “it is inherent that the historical data would be kept and used for a purpose.”<sup>2</sup> Even if historical data is kept for a purpose, that does not teach or suggest a particular claimed use of data, nor does it teach or suggest anything about real-time data. To the contrary, since Fields focuses on creating staff schedules for a given day, it fails to use real-time data. Hence, it is respectfully submitted that claim 15 is neither taught nor suggested by Fields. Accordingly, the combination of features recited in claim 2 is submitted to be patentable over the prior art of record.

Moreover, in connection with claim 16, the Examiner states that “significance and performance criteria are old and well known techniques used in the art.” It is unclear what the

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<sup>1</sup> In this instance, the Office Action relies on the Examiner’s personal knowledge or alleged well known facts. An assertion of official notice of facts where the allegedly well known facts are not capable of instant and unquestionable demonstration is not appropriate. An assertion of basic knowledge that is not based on any evidence in the record lacks substantial evidence support, and will not support an obviousness rejection. *In re Zurko*, 258 F.2d 1379, 1385 (Fed. Cir. 2001). Accordingly, the Examiner is respectfully requested to provide a citation to a reference or an Examiner’s affidavit, or to withdraw the rejection. 37 CFR § 1.104(d)(2). MPEP § 2144.03. The traversal was previously made in connection with claims 1, 10, 18, 25 and 26, and now is made in connection with claim 12, 16, 20, 27 and 28.

<sup>2</sup> In this instance, the Office Action relies on the Examiner’s personal knowledge or alleged well known facts. The Examiner is respectfully requested to provide a citation to a reference or an affidavit from the Examiner, or to withdraw the rejection. 37 CFR § 1.104(d)(2). MPEP § 2144.03.

Examiner considers to be “significance and performance criteria” techniques, or how the Office Action’s reasoning about evaluating results and determining improvements relates thereto.<sup>3</sup>

Claim 17 recites that the available resources are characterized by certain information, including “projected incoming volume by task and time”. The Office Action cites Fields Col. 7, lines 18-22 as teaching this element. To the contrary, this portion references a value 35 (Fig. 3) “which constitutes a projected *total* business demand distributed by hour.” This, however, does not teach or suggest that available resources are so characterized as claimed, e.g., by task. Hence this and other elements recited in combination in claim 17 fail to be taught or suggested by the cited reference.

Claim 18 recites that the resources are assigned using, inter alia, “number of RX’s processed in each task for each time period.” The Examiner consistently acknowledges that Fields does not explicitly teach volume data including the number of RX’s processed. There is nothing in the reference that would teach or suggest using numbers of RX’s processed. Indeed Fields addresses a problem that is unrelated to the number of RX’s, or even items of any kind, processed. The Office Action theorizes that it would be obvious that the number of tasks must be known. In spite of the fact that Fields and the other references fail to recognize the problem of volume, the Examiner contends that one would be motivated to include volume data since that “explicitly discloses the volume of the tasks and allows a more accurate description of the number of tasks that the user must assign to resources”. Assuming arguendo that it would be obvious and/or desirable to know how many tasks there are, that does not lead to the obviousness of the RX’s processed in each task, as claimed.

Furthermore, the Examiner has failed to make a prima facie case of obviousness. For a prima facie case of obviousness to be established, the teachings from the prior art itself must appear to have suggested the claimed subject matter to one of ordinary skill in the art. *See In re Fritch*, 23 USPQ.2d 1780, 1783 (Fed. Cir. 1992). The Examiner does not explain why Fields

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<sup>3</sup> In this instance, the Office Action relies on the Examiner’s personal knowledge or alleged well known facts. The Examiner is respectfully requested to provide a citation to a reference or an affidavit from the Examiner, or to withdraw the rejection. 37 CFR § 1.104(d)(2). MPEP § 2144.03.

itself would have fairly suggested the desirability of “number of RX’s process in each task for each time period, as claimed.” The Examiner appears to be impermissibly using personal knowledge to support this rejection. Applicants continue to request that the Examiner provide a prior art reference or an affidavit under 37 C.F.R. § 1.104 (d)(2) to support the rejection, as they have requested previously. Accordingly, the combination of features recited in claim 2 is submitted to be patentable over the prior art of record.

In connection with claim 20, the Examiner states that Markov Chains “are a very well known type of queuing theory.” The assertion of the technical facts appears to relate to an area of esoteric technology or specific knowledge of the prior art, and therefore must be supported by citation to some reference work recognized as standard in the pertinent art.<sup>4</sup> Accordingly, the combination of features recited in claim 2 is submitted to be patentable over the prior art of record.

Claim 22 recites, in combination, that steps (a) through (b) are repeatedly performed until the end of a predetermined time period is reached. The Office Action cites Fields Col. 3, lines 46-67 as teaching that the steps “are repeated until closing time of each store location”. This rejection is respectfully traversed. For example, Fields states that “certain tasks can only be performed after another task has been completed, but before closing time for that location;” and “During the process of placing a task on a schedule, each group of relations [between tasks and events] are tested and if no relation is violated in that group, the task is placed on the schedule.” The Office Action argues that steps (a) through (b) are repeated until the predetermined closing time. To the contrary, it appears the Fields lacks, inter alia, a repeated steps of (a) sorting and/or of (b) assigning. One advantage of this claimed invention that cannot be provided by Fields is that it permits dynamic re-scheduling on, e.g., an hour-to-hour basis, helpful e.g., in handling unexpected work volume, as pointed out in the specification. In sum, the reference neither

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<sup>4</sup> In this instance, the Office Action relies on the Examiner’s personal knowledge or alleged well known facts. Accordingly, the Examiner is respectfully requested to provide a citation to a reference or an affidavit from the Examiner, or to withdraw the rejection. 37 CFR § 1.104(d)(2). MPEP § 2144.03.



teaches nor suggests that the combination of steps (a) through (b) are performed until the end of a predetermined time period is reached in combination with the remaining features of the claims.

In connection with claims 27 and 28, the Examiner takes notice “that it is old and well-known in the art that tasks in a pharmacy commonly include vertical fills, baker fills, prepack fills,” etc. This appears to be an assertion of specific knowledge and therefore must be supported by a citation to some reference work recognized as standard in the pertinent art.<sup>5</sup> Without a citation to a reference, there can be no prima facie case of obviousness. Moreover, the Examiner has failed to adequately provide a motivation to combine Fields with some other reference to “adapt the invention to allocate resources,” particularly since Fields itself recognizes that introducing new elements into scheduling raises problems of linear complexity (Col. 1, lines 55-57).

Claim 29 of the present invention recites, in combination, “normalizing the at least one queue by dividing a current task queue by an average rate of the available resources for each task in the current task queue.” Both prior Office Actions acknowledge that “Fields do not explicitly teach the method of normalizing”. Now, in the present Office Action, the Examiner contends that “Fields et al. teaches all aspects of normalization.” First, Fields does not expressly teach anything about a rate of available resources for each task, as further claimed. Further, Fields does not include a queue of resources, but rather has tasks placed on a schedule, and hence fails to teach or suggest, inter alia, normalizing (as admitted by the Examiner), or the claimed at least one queue, or an average rate of available resources. In any event, Fields fails to teach or suggest at least normalizing the queue by an average rate of the available resources for each task in the current task queue.

The assertion that normalizing a queue by an average rate of available resources for each task in the queue is a well-known technique was respectfully traversed by Applicants, and the Examiner was respectfully requested to supply an affidavit under 37 C.F.R. § 1.104(d)(2) or a

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<sup>5</sup> In this instance, the Office Action relies on the Examiner’s personal knowledge or alleged well known facts. Accordingly, the Examiner is respectfully requested to provide a citation to a reference or an affidavit from the Examiner, or to withdraw the rejection. 37 CFR § 1.104(d)(2). MPEP § 2144.03.

reference to support the entire assertion, or to withdraw the argument. The Examiner now cites Fields in its entirety. Moreover, building on the erroneous argument of “rate of accomplishment”, the Office Action states that “rate of an accomplishment is also the rate of availability of a resource. For example, if Mary can fill 60 prescription bottles in an hour, then Mary can complete a prescription bottle every minute and is available after a single minute ... Therefore Fields does teach the rate of available resources by teaching the percent of time needed to accomplish a task.” To the contrary, Fields does not teach a “rate of an accomplishment”. Moreover, Fields does not teach “normalizing ... by dividing a current task queue by an average rate of the available resources for each task ...” as claimed. Fields does not teach of an “average rate” as explained by the Examiner. Fields, Column 3, lines 40-45 and Column 5, lines 8-34, disclosing how to “optimize schedule by shifts and breaks”, have nothing to do with normalization as claimed.

Furthermore, assuming arguendo that the art teaches that one may normalize an item, such as a queue, by the average, that does not explain why one would look to the average rate of available resources for each task in the queue as claimed.

Claim 30 is deemed to be patentable for reasons including those explained above, and because the Office Action fails to provide specific reasons for rejection.

In view of the foregoing, the Examiner is respectfully requested to reconsider and withdraw the rejection and allow the claims.

The Examiner applies the rejections already addressed to dependent claims 32-57 and 59-83. For the reasons discussed above, it is respectfully submitted that claims 32-57 and 59-83 are patentable over Fields.

### **Independent Claim 31 in Contrast to Fields**

Claim 31 stands finally rejected under 35 U.S.C. § 103(a) as being unpatentable over Fields. For the reasons discussed above, it is respectfully submitted that the combination of features recited in claim 31 as amended is patentable over Fields when interpreted as a whole. The Examiner is respectfully requested to withdraw the rejection of claim 31.

### **Independent Claim 58 in Contrast to Fields**

Claim 58 stands finally rejected under 35 U.S.C. § 103(a) as being unpatentable over Fields. For the reasons discussed above, it is respectfully submitted that the combination of features recited in claim 58 as amended is patentable over Fields when interpreted as a whole. The Examiner is respectfully requested to withdraw the rejection of claim 58.

### **Summary**

In view of the above, Applicants submit that the combination of features recited in each of claims 1-8, 10-23 and 27-83 is patentable over the prior art cited by the Examiner when each respective claim is interpreted as a whole.

Applicant respectfully submits that, as described above, the cited prior art does not show or suggest the combination of features recited in the claims. Applicant does not concede that the cited prior art shows any of the elements recited in the claims. However, Applicant has provided specific examples of elements in the claims that are clearly not present in the cited prior art.

Applicant strongly emphasizes that one reviewing the prosecution history should not interpret any of the examples Applicant has described herein in connection with distinguishing over the prior art as limiting to those specific features in isolation. Rather, Applicant asserts that it is the combination of elements recited in each of the claims, when each claim is interpreted as a whole, which is patentable. Applicant has emphasized certain features in the claims as clearly not present in the cited references, as discussed above. However, Applicant does not concede that other features in the claims are found in the prior art. Rather, for the sake of simplicity, Applicant is providing examples of why the claims described above are distinguishable over the cited prior art.

Applicant wishes to clarify for the record, if necessary, that the claims have been amended to expedite prosecution. Moreover, Applicant reserves the right to pursue the original subject matter recited in the present claims in a continuation application.

Any narrowing amendments made to the claims in the present Amendment are not to be construed as a surrender of any subject matter between the original claims and the present claims; rather merely Applicant's best attempt at providing one or more definitions of what the

Applicant believes to be suitable patent protection. In addition, the present claims provide the intended scope of protection that Applicant is seeking for this application. Therefore, no estoppel should be presumed, and Applicant's claims are intended to include a scope of protection under the Doctrine of Equivalents.

For all the reasons advanced above, Applicant respectfully submits that the rejections have been overcome and should be withdrawn.

For all the reasons advanced above, Applicant respectfully submits that the Application is in condition for allowance, and that such action is earnestly solicited.

### **Conclusion**

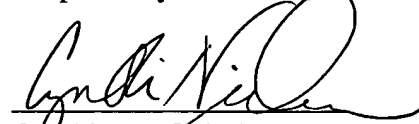
For all the reasons advanced above, Applicants respectfully submit that the rejection of claims 1-8, 10-23 and 27-83 must be withdrawn. Consequently, issuance of a Notice of Allowance is respectfully requested.

### **AUTHORIZATION**

The Commissioner is hereby authorized to charge any additional fee that may be required for this Amendment, or credit any overpayment to Deposit Account No. 08-0219.

In the event that an extension of time is required, or which may be required in addition to that requested in a petition for an extension of time, the Commissioner is requested to grant a petition for that extension of time which is required to make this response timely and is hereby authorized to charge any fee for such an extension of time or credit any overpayment for an extension of time to deposit account no. 08-0219.

Respectfully submitted,



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